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NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	SEP 09	CA/CAplus records now contain indexing from 1907 to the present
NEWS	4	DEC 08	INPADOC: Legal Status data reloaded
NEWS	5	SEP 29	DISSABS now available on STN
NEWS	6	OCT 10	PCTFULL: Two new display fields added
NEWS	7	OCT 21	BIOSIS file reloaded and enhanced
NEWS	8	OCT 28	BIOSIS file segment of TOXCENTER reloaded and enhanced
NEWS	9	NOV 24	MSDS-CCOHS file reloaded
NEWS	10	DEC 08	CABA reloaded with left truncation
NEWS	11	DEC 08	IMS file names changed
NEWS	12	DEC 09	Experimental property data collected by CAS now available in REGISTRY
NEWS	13	DEC 09	STN Entry Date available for display in REGISTRY and CA/CAplus
NEWS	14	DEC 17	DGENE: Two new display fields added
NEWS	15	DEC 18	BIOTECHNO no longer updated
NEWS	16	DEC 19	CROPU no longer updated; subscriber discount no longer available
NEWS	17	DEC 22	Additional INPI reactions and pre-1907 documents added to CAS databases
NEWS	18	DEC 22	IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
NEWS	19	DEC 22	ABI-INFORM now available on STN
NEWS	20	JAN 27	Source of Registration (SR) information in REGISTRY updated and searchable
NEWS	21	JAN 27	A new search aid, the Company Name Thesaurus, available in CA/CAplus
NEWS	22	FEB 05	German (DE) application and patent publication number format changes
NEWS	23	MAR 03	MEDLINE and LMEDLINE reloaded
NEWS	24	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS	25	MAR 03	FRANCEPAT now available on STN

NEWS EXPRESS	MARCH 5 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 3 MARCH 2004
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FILE 'HOME' ENTERED AT 14:54:33 ON 19 MAR 2004

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

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=> file ca

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.06	0.27

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FILE COVERS 1907 - 18 Mar 2004 VOL 140 ISS 13
FILE LAST UPDATED: 18 Mar 2004 (20040318/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s antibody(3a)(dnp or dinitrophenol)
        253842 ANTIBODY
        282841 ANTIBODIES
        386613 ANTIBODY
                  (ANTIBODY OR ANTIBODIES)
          6783 DNP
            83 DNPS
          6827 DNP
                  (DNP OR DNPS)
         16306 DINITROPHENOL
           478 DINITROPHENOLS
         16507 DINITROPHENOL
                  (DINITROPHENOL OR DINITROPHENOLS)
L1        1024 ANTIBODY(3A)(DNP OR DINITROPHENOL)
```

```
=> s antiserum(3a)(dnp or dinitrophenol)
         42975 ANTISERUM
         14866 ANTISERUMS
         21845 ANTISERA
             6 ANTISERAS
         66318 ANTISERUM
                 (ANTISERUM OR ANTISERUMS OR ANTISERA OR ANTISERAS)
          6783 DNP
            83 DNPS
          6827 DNP
                 (DNP OR DNPS)
         16306 DINITROPHENOL
           478 DINITROPHENOLS
         16507 DINITROPHENOL
                 (DINITROPHENOL OR DINITROPHENOLS)
L2          32 ANTISERUM(3A)(DNP OR DINITROPHENOL)

=> s anti(3a)(dnp or dinitrophenol)
        313985 ANTI
             8 ANTIS
        313992 ANTI
                 (ANTI OR ANTIS)
          6783 DNP
            83 DNPS
          6827 DNP
                 (DNP OR DNPS)
         16306 DINITROPHENOL
           478 DINITROPHENOLS
         16507 DINITROPHENOL
                 (DINITROPHENOL OR DINITROPHENOLS)
L3         1211 ANTI(3A)(DNP OR DINITROPHENOL)

=> l1 or l2 or l3
L1 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l1 or l2 or l3
L4         1468 L1 OR L2 OR L3

=> s affinity(W)chromatog?
        252638 AFFINITY
         30501 AFFINITIES
        266776 AFFINITY
                 (AFFINITY OR AFFINITIES)
        697548 CHROMATOG?
L5       33475 AFFINITY(W)CHROMATOG?

=>  s affinity(W)purif?
        252638 AFFINITY
         30501 AFFINITIES
        266776 AFFINITY
                 (AFFINITY OR AFFINITIES)
        722468 PURIF?
L6        8454 AFFINITY(W)PURIF?

=>  s affinity(W)separat?
        252638 AFFINITY
         30501 AFFINITIES
        266776 AFFINITY
                 (AFFINITY OR AFFINITIES)
```

```
        279506 SEPARAT?
        244718 SEP
         12406 SEPS
        256011 SEP
                 (SEP OR SEPS)
        417633 SEPD
             3 SEPDS
        417636 SEPD
                 (SEPD OR SEPDS)
         81552 SEPG
             1 SEPGS
         81553 SEPG
                 (SEPG OR SEPGS)
        509854 SEPN
         31848 SEPNS
        525798 SEPN
                 (SEPN OR SEPNS)
       1220604 SEPARAT?
                 (SEPARAT? OR SEP OR SEPD OR SEPG OR SEPN)
L7          368 AFFINITY(W)SEPARAT?

=>  s affinity(W)absorp?
        252638 AFFINITY
         30501 AFFINITIES
        266776 AFFINITY
                 (AFFINITY OR AFFINITIES)
        848086 ABSORP?
L8           45 AFFINITY(W)ABSORP?

=> s affinity(W)absorb?
        252638 AFFINITY
         30501 AFFINITIES
        266776 AFFINITY
                 (AFFINITY OR AFFINITIES)
        348855 ABSORB?
L9           76 AFFINITY(W)ABSORB?

=> s affinity(W)adsorp?
        252638 AFFINITY
         30501 AFFINITIES
        266776 AFFINITY
                 (AFFINITY OR AFFINITIES)
        360604 ADSORP?
L10         345 AFFINITY(W)ADSORP?

=> s affinity(W)adsorb?
        252638 AFFINITY
         30501 AFFINITIES
        266776 AFFINITY
                 (AFFINITY OR AFFINITIES)
        288241 ADSORB?
L11         665 AFFINITY(W)ADSORB?

=> l5 or l6 or l7 or l8 or l9 or l10 or l11
L5 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l5 or l6 or l7 or l8 or l9 or l10 or l11
L12       41318 L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR L11

=> d his
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     (FILE 'HOME' ENTERED AT 14:54:33 ON 19 MAR 2004)

     FILE 'STNGUIDE' ENTERED AT 14:54:36 ON 19 MAR 2004

     FILE 'CA' ENTERED AT 14:54:46 ON 19 MAR 2004
L1          1024 S ANTIBODY(3A)(DNP OR DINITROPHENOL)
L2            32 S ANTISERUM(3A)(DNP OR DINITROPHENOL)
L3          1211 S ANTI(3A)(DNP OR DINITROPHENOL)
L4          1468 S L1 OR L2 OR L3
L5         33475 S AFFINITY(W)CHROMATOG?
L6          8454 S AFFINITY(W)PURIF?
L7           368 S AFFINITY(W)SEPARAT?
L8            45 S AFFINITY(W)ABSORP?
L9            76 S AFFINITY(W)ABSORB?
L10          345 S AFFINITY(W)ADSORP?
L11          665 S AFFINITY(W)ADSORB?
L12        41318 S L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR L11

=> l4(L)l12
L4(L)L12 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l4(L)l12
L13           40 L4(L)L12

=> file biosis
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                               47.35      47.62

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CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 17 March 2004 (20040317/ED)

FILE RELOADED: 19 October 2003.

=> s l13
        357329 ANTIBODY
        300869 ANTIBODIES
        550973 ANTIBODY
                 (ANTIBODY OR ANTIBODIES)
          4323 DNP
            50 DNPS
          4352 DNP
                 (DNP OR DNPS)
          4913 DINITROPHENOL
            40 DINITROPHENOLS
          4936 DINITROPHENOL
                 (DINITROPHENOL OR DINITROPHENOLS)
         35492 ANTISERUM
           108 ANTISERUMS
         28520 ANTISERA
             8 ANTISERAS
         58587 ANTISERUM
                 (ANTISERUM OR ANTISERUMS OR ANTISERA OR ANTISERAS)
```

```
          4323 DNP
            50 DNPS
          4352 DNP
                 (DNP OR DNPS)
          4913 DINITROPHENOL
            40 DINITROPHENOLS
          4936 DINITROPHENOL
                 (DINITROPHENOL OR DINITROPHENOLS)
        465248 ANTI
            15 ANTIS
        465258 ANTI
                 (ANTI OR ANTIS)
          4323 DNP
            50 DNPS
          4352 DNP
                 (DNP OR DNPS)
          4913 DINITROPHENOL
            40 DINITROPHENOLS
          4936 DINITROPHENOL
                 (DINITROPHENOL OR DINITROPHENOLS)
        195337 AFFINITY
         26932 AFFINITIES
        211380 AFFINITY
                 (AFFINITY OR AFFINITIES)
        370308 CHROMATOG?
        195337 AFFINITY
         26932 AFFINITIES
        211380 AFFINITY
                 (AFFINITY OR AFFINITIES)
        315164 PURIF?
        195337 AFFINITY
         26932 AFFINITIES
        211380 AFFINITY
                 (AFFINITY OR AFFINITIES)
        356952 SEPARAT?
        195337 AFFINITY
         26932 AFFINITIES
        211380 AFFINITY
                 (AFFINITY OR AFFINITIES)
        153187 ABSORP?
        195337 AFFINITY
         26932 AFFINITIES
        211380 AFFINITY
                 (AFFINITY OR AFFINITIES)
         62514 ABSORB?
        195337 AFFINITY
         26932 AFFINITIES
        211380 AFFINITY
                 (AFFINITY OR AFFINITIES)
         38925 ADSORP?
        195337 AFFINITY
         26932 AFFINITIES
        211380 AFFINITY
                 (AFFINITY OR AFFINITIES)
         26937 ADSORP?
L14         34 L4(L)L12

=> duplicate remove
ENTER L# LIST OR (END):l13-l14
DUPLICATE PREFERENCE IS 'CA, BIOSIS'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
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FULL ESTIMATED COST 0.85 48.47

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PROCESSING COMPLETED FOR L14
L15 49 DUPLICATE REMOVE L13-L14 (25 DUPLICATES REMOVED)

=> s l15 not 2004/py
L16 49 L15 NOT 2004/PY

=> s l16 not 203/py
L17 49 L16 NOT 203/PY

=> s l16 not 2003/py
L18 47 L16 NOT 2003/PY

=> s l18 not 2002/py
L19 47 L18 NOT 2002/PY

=> s l19 not 2001/py
L20 46 L19 NOT 2001/PY

=> d l20 1-46 bib ab

L20 ANSWER 1 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 133:360553 CA
TI Sol-gel-based enzymatic assays and immunoassays for residue analysis
AU Altstein, M.; Aharonson, N.; Segev, G.; Ben-Aziz, O.; Avnir, D.; Turniansky, A.; Bronshtein, A.
CS Institute of Plant Protection, The Volcani Center, Bet Dagan, 50250, Israel
SO Italian Journal of Food Science (2000), 12(2), 191-206
CODEN: ITFSEY; ISSN: 1120-1770
PB Chiriotti Editori spa
DT Journal
LA English
AB A novel technol. based on the entrapment of biomols. in a ceramic SiO2 sol-gel matrix was developed. The technol. was used to entrap enzymes and antibodies for use as pesticide and pollutant sensors and immunochromatog. materials. 3 Systems were studied: (i) sol-gel-entrapped esterases for monitoring organophosphate (OP) and carbamate (CB) pesticides; (ii) sol-gel-entrapped anti-atrazine monoclonal antibodies for immuno-**affinity purification** of s-triazine herbicides present as contaminants in soil and water; and (iii) sol-gel-entrapped **anti**-dinitrophenyl (**DNP**) polyclonal **antiserum** for clean up and concentration of nitroarom. pollutants from agricultural and environmental samples. The characteristics of the sol-gel-entrapped enzymes and antibodies are presented.
RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 130:271893 CA
TI Functional nanospheres: synthesis and biological applications
AU Margel, S.; Burdygin, I.; Reznikov, V.; Nitzan, B.; Melamed, O.; Kedem, M.; Gura, S.; Mandel, G.; Zuberi, M.; Boguslavsky, L.
CS Dept. of Chemistry, Bar-Ilan University, Ramat-Gan, 52900, Israel

SO Recent Research Developments in Polymer Science (1997), 1, 51-78
CODEN: RRDPFX
PB Transworld Research Network
DT Journal; General Review
LA English
AB A review with 45 refs. In the last decade, a broad range of organic, inorg. and hybrid functional monodispersed nanospheres have been prepared in our labs. These particles were made in different sizes, from approx. 400 Å up to a few microns, with different dye properties and/or magnetic character. The nanospheres were usually prepared by heterogeneous polymerization of different types of functional monomers such as glutaraldehyde and pentaerythritoltetrathio-glycolate, acrolein, glutaraldehyde, Me (α-hydroxymethyl)acrylate,styrene, chloromethylstyrene, formylstyrene, sulfonylstyrene and tetraorthoethoxysilane, in the absence or presence of appropriate surfactants. Surface modification of the nanospheres was usually performed for different goals, such as: stabilization of the particles towards different conditions (e.g., the replacement of an aqueous solvent by an organic solvent); metalization of the particles' surfaces (e.g., gold coating onto polyaldehyde nanospheres); and surface functionalization (e.g., replacement of surface chloromethyl groups for surface aldehyde groups). Covalent binding of ligands, such as drugs, proteins, enzymes, antigens and antibodies, onto part of these colloidal particles was accomplished via different functional groups and activation methods. The optimally designed conjugated particles were then used for applications such as the following: specific cell labeling (human red blood cells, human and mouse B and T lymphocytes and rat basophilic leukemia cells); cell separation (B lymphocytes from T lymphocytes, cancer cells from bone marrow, sperm cells from epithelial cells and sperm cells containing antisperm antibodies from semen of infertile males); diagnostics (determination of α1-antitrypsin, digoxin, cAMP, T3, T4, and corticosterone); cell growth (primary cells, diploid cell strains and established cell lines for biol. studies and for production of various cell products); drug delivery (body distribution studies in rats of 75Se-radiolabeled modified silica nanospheres); **affinity chromatog.** (isolation of rabbit **anti**-BSA, rabbit **anti-DNP**-BSA, goat **anti**-rabbit IgG and human antisperm antibodies); and specific blood filtration by hemoperfusion (specific removal from whole blood of drugs, metal ions, antigens, antibodies and immune-complexes).
RE.CNT 93 THERE ARE 93 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 127:328732 CA
TI Haemophilus somnus immunoglobulin binding proteins and surface fibrils
AU Corbeil, Lynette B.; Bastida-Corcuera, Felix D.; Beveridge, Terry J.
CS Department of Pathology, University of California, San Diego, San Diego, CA, 92103-8416, USA
SO Infection and Immunity (1997), 65(10), 4250-4257
CODEN: INFIBR; ISSN: 0019-9567
PB American Society for Microbiology
DT Journal
LA English
AB The high-mol.-weight (HMW) Ig binding proteins (IgBPs) of Haemophilus somnus and a 76-kDa surface protein (p76) are found in serum-resistant virulent strains but not in several serum-sensitive strains from asymptomatic carriers. For the first time, p76 was shown to be an IgBP also. This was done by competitive inhibition studies with **affinity-purified** antidinitrophenol (**anti-DNP**) and **DNP** to ensure that binding was not antigen specific. The HMW IgBPs, but not the p76 IgBP, were partially purified from concentrated culture supernatant in detergent by fluid-phase liquid chromatog. with a gel

filtration column. Membrane extraction studies showed that p76 predominated in the Sarkosyl-soluble fraction of the bacterial cell pellet. Since integral outer membrane (OM) proteins are Sarkosyl insol., this is consistent with our previous finding that implicated p76 as a peripheral OM protein. The HMW IgBPs were found predominantly in the Sarkosyl-soluble fraction of the culture supernatant. This suggests that they were not integral membrane proteins and that their presence in the supernatant was not due to OM blebbing. The authors then showed that two IgBP-pos. serum-resistant virulent strains have a surface fibrillar network but that two IgBP-neg. serum-sensitive H. somnus strains from asymptomatic preputial carriers do not. Fibrils on the surfaces of IgBP+ strains bound gold-labeled bovine IgG2 (IgG2) **anti-DNP**, indicating that these fibrils have IgG2 binding activity. Therefore, this study shows that H. somnus has two IgBPs, including a peripheral membrane protein and a fibrillar surface network.

L20 ANSWER 4 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 125:83919 CA
TI Protein engineering by chemical means: pH on-off switching of antibody-hapten binding by site-specific modification of tyrosine
AU Tawfik, Dan S.; Eshhar, Zelig; Green, Bernard S.
CS Department Chemical Immunology, Weizmann Institute Science, Rehovot, 76100, Israel
SO Perspectives on Protein Engineering & Complementary Technologies, Collected Papers, International Symposium, 3rd, Oxford, Sept. 13-17, 1994 (1995), Meeting Date 1994, 188-189. Editor(s): Geisow, Michael J.; Epton, Roger. Publisher: Mayflower Worldwide, Kingswinford, UK. CODEN: 62ZQAP
DT Conference
LA English
AB Applications of antibodies often require reversible dissociation of the bound antigen under mild conditions. The authors have found that tetranitromethane (TNM) chemical mutates the binding sites of several antibodies so that the nitrated antibodies exhibit pH-dependent binding near physiol. pH. Recovery and loss of binding are ascribed to the protonation and deprotonation (at pH < 6, and at pH > 8, resp.) of the hydroxyl group of the resulting 3-nitrotyrosine side chain (pKa .apprx. 7). The feasibility of this novel approach was demonstrated by **affinity purification** of a nitrated **anti-DNP** (2,4-dinitrophenyl) **antibody**. A sample of the nitrated antibody was absorbed (.apprx. 95%) onto DNP-agarose at pH 5.8 and was rapidly eluted with close to 100% yield simply by increasing the pH to 9.0.

L20 ANSWER 5 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 123:166982 CA
TI Monoclonal antibodies for the measurement of class-specific antibody responses in the green turtle, Chelonia mydas
AU Herbst, L. H.; Klein, P. A.
CS College Veterinary Medicine, University Florida, Gainesville, FL, 32610, USA
SO Veterinary Immunology and Immunopathology (1995), 46(3,4), 317-35 CODEN: VIIMDS; ISSN: 0165-2427
PB Elsevier
DT Journal
LA English
AB Monoclonal antibodies (Mabs) were developed against the known Ig classes of the green turtle, Chelonia mydas. Plasma protein fractions enriched for 5.7S IgY, 7S IgY, and IgM turtle Igs were used to immunize Balb/c mice for hybridoma production and for hybridoma screening. Fifteen hybridomas produced Mabs with specificity for turtle Igs and for **affinity purified dinitrophenol** (**DNP**) specific turtle **antibodies**. Three Mabs specific for either turtle 5.7S IgY heavy

chain (HL814), 7S IgY heavy chain (HL857), or IgM heavy chain (HL846) were purified and used in an ELISA to measure antibody responses in two turtles immunized with 2,4-dinitrophenylated bovine serum albumin (DNP-BSA) over a 10 mo period. In both turtles the 7S IgY antibody response developed within 5 wk of the first inoculation and remained high over the following 9 mo. The 5.7S IgY antibody response was detected in one turtle at 3-4 mo and in the other at 8 mo, and reached high levels in both individuals by 10 mo. The IgM responses were difficult to interpret. One turtle had pre-inoculation **anti-DNP** IgM **antibody** in its plasma and the other developed only a weak, transient response at about 4 mo. The class-specific antibody activity in immune turtle plasma could be strongly inhibited by soluble **DNP** or by rabbit **anti-DNP** specific **antiserum**, showing that these antibody responses were directed predominantly to the DNP hapten on the DNP-BSA antigen. Antibody responses to the BSA carrier could not be detected in either turtle over the course of the immunization.

L20 ANSWER 6 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 123:141738 CA
TI Chemically modified binding protein
IN Eshhar, Zelig; Green, Bernard S.; Tawfik, Dan S.
PA Yeda Research and Development Co., Ltd., Israel; Yissum Research Development Co.
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9514710	A1	19950601	WO 1994-US13549	19941123

W: CA, JP, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI IL 1993-107742 19931124

AB The present invention relates to a modified protein selected from the group of binding proteins consisting of antibodies, enzymes, lectins and receptors which bind specifically to their resp. binding partners selected from the group consisting of antigens/haptens, substrates, carbohydrate moieties and ligands, said protein being characterized by: (i) having at least one modified amino acid residue with a different pKa, when compared with its unmodified counterpart, or near to its resp. antigen-binding region/complementarity-determining region, binding domain or active site for binding to said binding partners; (ii) having a pH-dependent binding activity when compared with its unmodified counterparts, said protein to its said binding partner at a pH lower or higher than the pKa and releasing its said binding partner at a pH lower or higher than the pKa; and (iii) retaining its specificity of binding to its said binding partner. Modified antibodies according to the invention are useful, e.g., in **affinity chromatog.** and cell separation methods. In example, monoclonal **antibodies** to 2,4-**dinitrophenol**-hemocyanin conjugates were prepared, characterized by binding to DNP-albumin conjugates, purified, and nitrated with tetranitromethane, and used in **affinity chromatog.** to perform pH-dependent binding ability.

L20 ANSWER 7 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 123:81230 CA
TI B cell and immunoglobulin heterogeneity in carp (Cyprinus carpio L.); an immuno(cyto)chemical study
AU Diepen, Jose C. E. Koumans-van; Egberts, Egbert; Peixoto, Bernardo R.; Taverne, Nico; Rombout, Jan H. W. M.
CS Department Experimental Animal Morphology and Cell Biology, Agricultural University, Wageningen, 6700 AH, Neth.

SO Developmental & Comparative Immunology (1995), 19(1), 97-108
CODEN: DCIMDQ; ISSN: 0145-305X
DT Journal
LA English
AB B cell and Ig heterogeneity was demonstrated in carp, Cyprinus carpio L., using two monoclonal antibodies (MAbs; WC14, WCI12) produced against carp serum Ig. Immunochem. results showed that both WCI4 and WCI12 react with a protein determinant on the heavy chain of Ig (relative mol. mass .apprx.70,000). Immunofluorescence microscopic and flow cytometric analyses of lymphoid cells suggest three distinct subpopulations of B cells and plasma cells: WCI4+12- cells, WCI4-12+ cells, and WCI4+12+ cells. WCI4-12+ and WCI4+12+ **anti-DNP antibody**-secreting cells were also demonstrated with the ELISPOT assay in pronephros and spleen cell suspensions from primary immunized carp. **Affinity chromatog.** of carp serum and sequential immunopptn. of 125I-labeled peripheral blood leukocyte (PBL) membrane proteins only indicated the presence of two antigenically different Ig mols., i.e., WCI4-12+ and WCI4+12+ mols. WCI4+12- mols. could not be detected by **affinity chromatog.** or immunopptn. During ontogeny, a shift in percentages of WCI4+12- and WCI4-12+ cells was found in the spleen and the pronephros. In these organs, WCI4+12- cells formed the majority of B cells at 2 wk of age, but the percentages of this cell type decreased during ontogeny. The percentages of WCI4-12+ cells increased during development, and these cells became the major population of B cells from 13 wk onward. The proportion of WCI4+12+ cells remained almost constant during ontogeny. The distribution of B cell subpopulations in blood was more or less stable at all ages. The functional significance of Ig heterogeneity in fish and in particular carp is discussed.

L20 ANSWER 8 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 122:7529 CA
TI Behavior of the idiotypic network in conventional immune responses. III. Detection and enumeration of cells producing idiotypic and anti-idiotypic antibodies by a spot ELISA technique
AU Segre, Mariangela; Segre, Diego
CS Department of Veterinary Pathobiology, University of Illinois, Urbana, IL, 61801, USA
SO Cellular Immunology (1994), 159(1), 40-8
CODEN: CLIMB8; ISSN: 0008-8749
PB Academic
DT Journal
LA English
AB The idiotypic (Ab1) and anti-idiotypic (Ab2) responses of spleen cells of mice immunized with DNP-Ficoll were assayed with the spot ELISA technique in wells coated with DNP-BSA or with **affinity-purified** rabbit **anti-DNP antibodies**, resp. In agreement with results previously obtained with the hemolytic plaque technique, large nos. of Ab1 and Ab2 ELISA spots were found. The cytokinetics of the Ab1 and Ab2 responses were very similar and the peak responses occurred simultaneously. The isotypes of Abs1 and Abs2 were also similar. Both responses were specifically inhibited by soluble DNP-lysine. Similar results were obtained with spleen cells from mice immunized with the T-dependent antigen DNP-KLH and with the T-independent antigen fluorescein-Ficoll. In contrast, no Ab2 response was detected when spleen cells from mice immunized with ovalbumin were assayed, probably because the **affinity-purified** rabbit anti-ovalbumin antibodies used to coat the wells for the Ab2 assay contained mols. of several specificities corresponding to the several epitopes of the ovalbumin mol. The many similarities between the Ab1 and Ab2 responses to the haptens suggest that they reflected two different reactivities of the same antibody mols.

see hit 10 for earlier work by same lead author

L20 ANSWER 9 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 120:29013 CA
TI IgG auto- and polyreactivities of normal human sera
AU Berneman, Armand; Guilbert, Brigitte; Eschrich, Suzanne; Avrameas, Stratis
CS Dep. Immunol., Inst. Pasteur, Paris, 75724, Fr.
SO Molecular Immunology (1993), 30(16), 1499-510
CODEN: MOIMD5; ISSN: 0161-5890
DT Journal
LA English
AB Using a panel of self antigens, IgM autoreactivities were clearly and constantly detected by enzyme immunoassay (EIA) in the sera of 29 normal human individuals. Similarly, IgM autoreactivities in sera were reproducibly detected by immunoblotting, using human organ exts. as the antigen sources. In contrast, IgG reactivities were low in whole sera but were considerably increased after **affinity-chromatog.** purification on protein G-Sepharose. These increases differed from one individual IgG preparation to another and from one antigen to another (from 1-94 times) resulting in a unique IgG autoreactivity pattern for each subject. IgG reactivities diminished markedly when the IgG-depleted serum was added to the isolated autologous IgG. IgM antibodies isolated from sera on F(ab')2 IgG immunoadsorbent partially inhibited the binding of IgG to tubulin and myosin but not to actin. The individual IgG prepns. examined sep. exhibited, with all the autoantigens of the panel, higher autoreactivities than those of the same-but-pooled IgGs, which in turn were higher than those of a com. available human IgG preparation obtd. from approx. 8000 healthy donors and used for i.v. injection. Depending upon the individual IgG sample, 31-655 of the IgG were bound to a DNP-Sepharose column and were eluted with DNP-glycine. The isolated **anti-DNP antibodies** were polyreactive and possess higher autoreactivities than the original IgG preparation for all the antigens of the panel. Similarly, IgG antibodies analyzed using an antibody exchange procedure were essentially polyreactive but some apparently monospecific antibodies were also noted. These results suggest that the great majority of IgG present in normal humans are composed of polyreactive autoantibodies. IgG autoreactivities are only marginally expressed in these whole sera because of IgM-IgG, IgG-IgG and other, still unidentified, interactions.

L20 ANSWER 10 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 118:20625 CA
TI Behavior of the idiotypic network in conventional immune responses. II. Affinity and heterogeneity of idiotypic and anti-idiotypic antibodies following immunization with T-independent and T-dependent antigens
AU Segre, Mariangela; Weigel, Ronald M.; Schlueter, Annette J.; Segre, Diego
CS Dep. Vet. Pathobiol., Univ. Illinois, Urbana, IL, 61801, USA
SO Cellular Immunology (1992), 144(2), 324-31
CODEN: CLIMB8; ISSN: 0008-8749
DT Journal
LA English
AB The relative affinity and heterogeneity of affinity of idiotypic and anti-idiotypic antibodies in mice immunized with the T-independent antigen DNP-Ficoll and the T-dependent antigen DNP-HGG were measured by a plaque inhibition assay. Idiotypic plaque-forming cells (PFC) were detected by a conventional assay utilizing DNP-coated SRBC. Anti-idiotypic PFC were detected with sheep red blood cell coated with **affinity-purified anti-DNP antibody** of rabbit origin. Both idiotypic and anti-idiotypic antibodies elicited by immunization with the T-independent antigen had lower affinity and were less heterogeneous than the corresponding antibodies originating in mice immunized with the T-dependent antigen. In addition, the affinity and heterogeneity values of the idiotypic antibodies were correlated with the affinity and heterogeneity values of the anti-idiotypic antibodies from the same mice. Thus, idiotypic and anti-idiotypic antibodies mutually

regulate each other, pointing to internal immunoregulatory effects of the idiotypic network with respect to these parameters.

L20 ANSWER 11 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 117:88256 CA
TI The proportion of symmetric and asymmetric IgG antibody molecules synthesized by a cellular clone (hybridoma) can be regulated by placental culture supernatants
AU Margni, Ricardo A.; Borel, Ileana Malan; Kapovic, Miljenko; Angelucci, Juana; Miranda, Silvia; Kinsky, Radslav; Chaouat, Gerard
CS Inst. Estud. Immunidad Humoral, Buenos Aires, Argent.
SO Cellular Immunology (1992), 142(2), 287-95
CODEN: CLIMB8; ISSN: 0008-8749
DT Journal
LA English
AB The authors studied whether the placenta produces factors favoring an increased synthesis of asym. IgG antibodies which are known to assume a protective effect upon paternal antigens to which they largely are specific. In this way they can contribute to fetal survival in the maternal uterine environment. The hybridoma cell lines OKT8 (anti-CD8) and 112B4 (**anti-DNP**) were used in this respect since they synthesize both sym. and asym. mols. of the IgG2a and IgG1 subclasses, resp.; murine isotypes in which anti-paternal antibodies have been detected. The cells were cultured in RPMI 1640 medium supplemented with 10% BCS and different amts. (5, 10, and 20%) of human placental supernatant. After incubation for 3 days at 37° in a humid chamber containing 5% CO2 the cells were centrifuged and the antibodies were obtained from the culture medium by a purification procedure involving precipitation at 50% ammonium sulfate saturation followed by DEAE-cellulose chromatog. Sym. and asym. antibodies were separated by Con A-Sepharose **affinity chromatog.**, the latter lectin retaining selectively only asym. IgG mols. Both OKT8 and 112B4 hybridomas presenting a stable background synthesis of 15-17% of asym. antibodies showed an increased level reaching 27-28% of these mols. in the presence of 5-10% placental supernatant added to the RPMI 1640 culture medium. Thus, placental factors can up-regulate efficiently the synthesis of asym. IgG mols. of different isotypes secreted by plasma cells.

L20 ANSWER 12 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 114:141034 CA
TI High-performance affinity chromatography of immunoglobulin E on a column of dinitrophenylamino acids covalently bound to a highly cross-linked polymeric micropellicular support
AU Wongyai, Surapote; Varga, Janos M.; Bonn, Guenther K.
CS Inst. Radiochem., Univ. Innsbruck, Innsbruck, A-6020, Austria
SO Journal of Chromatography (1991), 536(1-2), 155-64
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
AB Coupling of different dinitrophenyl (DNP) amino acids to 2.5-μm highly cross-linked polystyrene-divinylbenzene beads was performed, using carbodiimide as catalyst. The binding capacity of **affinity-purified** monoclonal **anti-DNP** mouse IgE **antibody** to **DNP**-lysine-coated beads is ca. 4 nmols per mg of beads. The structure of the active coupled functional groups was investigated by XPS. The application of these ligand-carrying beads to the high-performance **affinity chromatog.** of IgE antibody was demonstrated and the purity of IgE was confirmed by SDS-PAGE. This method is also suitable for coupling several other carboxyl compds. to a highly cross-linked polystyrene matrix.

L20 ANSWER 13 OF 46 CA COPYRIGHT 2004 ACS on STN

AN 114:117330 CA
TI Purification and characterization of dinitrophenylglutathione ATPase of human erythrocytes and its expression in other tissues
AU Sharma, Rajendra; Gupta, Sanjiv; Singh, Shivendra V.; Medh, Rheem D.; Ahmad, Hassan; LaBelle, Edward F.; Awasthi, Yogesh C.
CS Med. Branch, Univ. Texas, Galveston, TX, 77550, USA
SO Biochemical and Biophysical Research Communications (1990), 171(1), 155-61
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
AB S-(2,4-Dinitrophenyl)glutathione (Dnp-SG) ATPase of human erythrocytes has been purified to apparent homogeneity by **affinity chromatog.** In reduced denaturing gels, the subunit Mr value of Dnp-SG ATPase was found to be 38,000. Dnp-SG stimulated the hydrolysis of ATP by the purified enzyme, whereas GSSG did not, indicating that Dnp-SG and GSSG are transported from the erythrocytes by different transporters. Results of Western blot anal. using **antibodies** against **Dnp**-SG ATPase subunits indicated that the enzyme was expressed in human liver, lung, placenta and pancreas.

L20 ANSWER 14 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 110:171423 CA
TI Production and immunoselection of IgM-IgA hybridomas: preparing immunoglobulins with dual binding specificity
AU Ju, Shyr-Te; Strack, Peggy; Dorf, Martin E.
CS Sch. Med., Boston Univ., Boston, MA, 02118, USA
SO Molecular Immunology (1989), 26(3), 283-92
CODEN: MOIMD5; ISSN: 0161-5890
DT Journal
LA English
AB Fusion between the thioguanine-resistant myeloma cell line MOPC-315 [which produces α, λ-2 antibodies specific to the 2,4-dinitrophenyl (DNP) hapten] and a long term in vivo maintained hybridoma 6100.15 [which produces μ, λ-1 antibodies specific to the 4-hydroxy-3-nitrophenyl acetyl (NP) hapten] resulted in the generation of 12 hybridomas. These hybridomas secrete a mixed family of Igs that bind both DNP and NP and express both IgM and IgA serol. determinants. **Affinity purified** mols. from NP, **DNP**, **anti**-mu, or **anti**-alpha immunosorbents react with both anti-μ and anti-α antisera, suggesting that these Ig represent IgM-IgA hybrid mols. To determine the roles of individual Ig chains in determining antibody specificity, this IgM-IgA hybridoma was used for immunoselection. Following lysis with specific anti-μ and anti-idiotype antibodies, an α+, μ- variant clone (A12) was identified, which secreted Ig that binds DNP but not NP. The DNP-binding proteins expressed α, λ-1, and λ-2 chains. In contrast, the Ig which lack DNP-binding activity only expressed α and λ-1 determinants. Thus, the λ-1 chain from 6100.15 hybridoma cannot replace λ-2 of MOPC-315 for DNP-binding activity. Critical amino acid substitutions in the MOPC-315 λ-2 sequence are required for DNP binding specificity.

L20 ANSWER 15 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 108:184827 CA
TI Expression and characterization of a truncated murine Fcγ receptor
AU Qu, Zhengxing; Odin, Joseph; Glass, John D.; Unkeless, Jay C.
CS Dep. Biochem., Mount Sinai Sch. Med., New York, NY, 10029, USA
SO Journal of Experimental Medicine (1988), 167(3), 1195-210
CODEN: JEMEAV; ISSN: 0022-1007
DT Journal
LA English
AB A recombinant secreted Fcγ receptor (R) β mol. was isolated by

deletion of the transmembrane and cytoplasmic domains encoding sequence from a FcγRβ1 cDNA clone, and insertion of the truncated cDNA into a eukaryotic expression vector, pcEXV-3. To express and amplify the production of the truncated FcγRβ mol., the truncated cDNA plasmid was transfected into a dihydrofolate reductase-minus CHO cell line along with a dhfr minigene, and the gene products were amplified with methotrexate. The resulting cell line secretes 2-3 μg/mL/24 h of truncated FcγRβ, which can be readily purified by **affinity chromatog.** on IgG-Sepharose. The truncated FcγRβ has a mol. weight (Mr) of 31-33,000 on SDS-PAGE and is glycosylated. N-Glycosidase F cleavage reduces the Mr to 19,000, consistent with the size of the truncated product, 176 amino acid residues. There are 2 disulfide bonds in the protein. Binding of immune complexes formed between dinotrophenyl-bovine serum albumin (DNP20BSA) and **anti-DNP** monoclonal **antibody** (mAbs) reveals better binding of IgG1 aggregates than that of IgG2b and IgG2a aggregates. The binding of the immune complexes was somewhat better at more acidic pH. The truncated FcγRβ, surprisingly, did not react with the anti-FcγR mAb 6B7C. By binding of mAb 6B7C to a peptide conjugate, it was shown that the 6B7C epitope lies within residues 169-183 of the intact FcγRβ, which is just outside the plasma membrane.

L20 ANSWER 16 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 108:110491 CA
TI Characterization of axolotl heavy and light immunoglobulin chains by monoclonal antibodies
AU Chardin, Helene; Vilain, Claude; Charlemagne, Jacques
CS Cent. Natl. Rech. Sci., Univ. Pierre et Marie Curie, Paris, 75005, Fr.
SO Hybridoma (1987), 6(6), 627-35
CODEN: HYBRDY; ISSN: 0272-457X
DT Journal
LA English
AB Axolotl-specific antibodies to 2,4-dinitrophenyl (DNP) were purified by **affinity chromatog.** from the sera of animals immunized with 2,4,6-trinitrophenylated sheep red blood cells (TNP-SRBC). The purified **anti**-TNP/**DNP antibodies**, when analyzed by SDS-PAGE, were high mol. weight mols., which in reducing conditions were separated into heavy 72-88 kilodalton (kD) and light 27-30 kD polypeptides. The axolotl heavy antibody chains strongly bound Con-A and migrated faster in SDS-PAGE after endoglycosidase-F (Endo-F) treatment. Using the same techniques, no carbohydrate components were detected on light chains. Monoclonal antibodies (MAbs) were obtained against these purified axolotl Igs and their specificities were studied by immunoblotting. MAbs 33.45.1 and 33.101.2 resp. recognized heavy and light chain determinants of the Ig mol. These determinants were resistant to Endo-F digestion, suggesting that the 2 MAbs were not directed to polypeptide-associated N-linked high mannose or complete oligosaccharides. MAbs 33.45.1 and 33.101.2 were compared to 11.5.2, an antiaxolotl thymocyte MAb which was reactive for both axolotl leukocytes and soluble Ig. MAb 11.5.2 reacted in immunoblotting against several high mol. weight axolotl serum proteins, including heavy Ig chains. Light chains were not recognized. However, 11.5.2 did not further recognize Endo-F treated Ig, suggesting its specificity for a carbohydrate determinant of the heavy chain.

L20 ANSWER 17 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 106:212207 CA
TI Antibody diversity in amphibians. Noninbred axolotls use the same unique heavy chain and a limited number of light chains for their anti-2,4-dinitrophenyl antibody responses
AU Charlemagne, Jacques
CS Lab. Immunol. Comparee, Univ. Pierre Marie Curie, Paris, Fr.
SO European Journal of Immunology (1987), 17(3), 421-4

CODEN: EJIMAF; ISSN: 0014-2980
DT Journal
LA English
AB Noninbred axolotls (Ambystoma mexicanum, amphibia, urodela) were immunized with trinitrophenylated sheep red blood cells (TNP-SRBC) and **anti**-2,4-dinitrophenyl (**DNP**)/TNP **antibodies** were individually purified by **affinity chromatog.** The isolated IgM-like antibodies were analyzed by SDS-PAGE and isoelec. focusing (IEF) under reducing conditions. The SDS-PAGE and IEF-separated heavy (H) and light (L) chains were electroblotted onto nitrocellulose, probed with mouse monoclonal antibodies specific for H or L axolotl Ig chains and stained by a rabbit anti-mouse Ig horseradish peroxidase conjugate. The specific detection of axolotl **anti-DNP**/TNP H chain spectrotypes shows for each of the 14 individually analyzed samples a very similar pattern of 4-5 ordered spaced bands. This suggests that all animals express the same VH chain segment representing the germinal expression of a unique VH gene. When the same anal. was performed starting from a pool of nonimmunized axolotl sera, a low background of natural **anti-DNP** natural **antibodies** was detected. When analyzed by IEF, the H chains of the pooled **anti-DNP** natural **antibodies** display the same pattern of restricted heterogeneity when compared to the H chain spectrotypes of the individual immune **anti-DNP**/TNP **antibodies**. The specific detection of the axolotl **anti-DNP**/TNP L chain spectrotypes indicates at the individual level more heterogenous and polymorphic patterns compared with H chains, although most animals share the majority of their bands. The expts. indicate that in axolotl, the production of **antibodies** to **DNP** results from the germinal expression of a very limited set of V genes, already expressed as naturally occurring **anti-DNP antibodies** before immunization. This seriously restricts the possible extension of the antibody repertoire and perhaps even the nature of antibody specificity in this primitive vertebrate.

L20 ANSWER 18 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 105:95758 CA
TI Dimeric M315 is transported into mouse and rat milk in a degraded form
AU Koertge, T. E.; Butler, J. E.
CS Dep. Periodontics, Virginia Commonw. Univ., Richmond, VA, 23298, USA
SO Molecular Immunology (1986), 23(8), 839-45
CODEN: MOIMD5; ISSN: 0161-5890
DT Journal
LA English
AB The controversial issue of serum to milk transport of IgA in rodents was addressed in expts. that evaluated the mol. integrity and antigen-binding ability of the dimeric IgA (dIgA) recovered in the stomachs of rat and mouse pups suckling dams which had been administered homogeneous, dimeric myeloma protein M315 i.v. Rat and mice dams were given **affinity-purified**, 125I-labeled dIgA **anti-dNP** (M315) i.v. Eleven to forty-three percent 125I-activity given to the dam was recovered from the stomach contents and sera of the pups after this time. Immunoassay revealed that <2% of the recovered radioactivity could bind DNP, i.e. a loss of 98% of functional antibody. It was calculated from ultracentrifugational analyses that <0.7% of the 125I-dIgA was transported intact to the suckling neonates. Analyses of stomach milk and neonatal sera by sucrose d. gradient ultracentrifugation revealed that almost all recovered radioactivity was in the form of low mol. wt fragments. Apparently, an active mechanism for the transport of intact IgA from serum to milk does not exist during early or mid-lactation.

L20 ANSWER 19 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 105:4705 CA
TI Rat monoclonal antibodies. VI. Production of IgA secreting hybridomas

with specificity for the 2,4-dinitrophenyl (DNP) hapten
AU Rits, M.; Cormont, F.; Bazin, H.; Meykens, R.; Vaerman, J. P.
CS Fac. Med., Univ. Cathol., Brussels, B-1200, Belg.
SO Journal of Immunological Methods (1986), 89(1), 81-7
CODEN: JIMMBG; ISSN: 0022-1759
DT Journal
LA English
AB A simple method to obtain rat hybridomas producing specific IgA antibodies is reported. By fusing the IR983F rat myeloma cell line with mesenteric lymph node cells from LOU/C rats immunized via the Peyer's patches with DNP-Salmonella typhimurium, 20 hybrids secreting monoclonal IgA **antibodies** specific for **DNP** were produced and maintained as highly secreting transplantable ascitic tumors. The monoclonal IgA antibodies were easily purified by **affinity chromatog.** on a DNP-immunosorbent and were comprised of both monomers and polymers.

L20 ANSWER 20 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 104:223239 CA
TI Immunosuppressive effects of glycosylation inhibiting factor on the IgE and IgG antibody response
AU Akasaki, Moriaki; Jardieu, Paula; Ishizaka, Kimishige
CS Sch. Med., Johns Hopkins Univ., Baltimore, MD, 21239, USA
SO Journal of Immunology (1986), 136(9), 3172-9
CODEN: JOIMA3; ISSN: 0022-1767
DT Journal
LA English
AB Glycosylation inhibiting factor (GIF) was purified from culture filtrates of a T cell hybridoma, 23A4, by **affinity chromatog.** on anti-lipomodulin Sepharose. The factor exhibited phospholipase inhibitory activity upon dephosphorylation. Immunization of BDF1 mice with alum-adsorbed dinitrophenyl derivs. of ovalbumin (DNP-OA) resulted in persistent IgE and IgG antibody formation. However, repeated injections of the **affinity-purified** GIF into the DNP-OA-primed mice beginning on the day of priming prevented the primary anti-hapten antibody responses of both the IgE and the IgG1 isotypes. Treatment of GIF also diminished ongoing IgE **antibody** formation in the **DNP**-OA-primed mice. Incubation of spleen cells from OA + alum-primed mice with OA resulted in the formation of IgE-potentiating factor, whereas spleen cells of OA-primed, GIF-treated mice formed IgE-suppressive factor upon antigenic stimulation. Lyt-2+ T cells in the OA-primed, GIF-treated mouse spleen cells released GIF, which had affinity for OA and bore I-Jb determinant(s). Transfer of a Lyt-1+ cell-depleted fraction of the OA-primed, GIF-treated mouse spleen cells into naive syngeneic animals resulted in suppression of the primary **anti-DNP** IgE **antibody** response of the recipients to alum-absorbed DNP-OA, but failed to affect the **anti-DNP** **antibody** response to **DNP**-keyhole limpet hemocyanin. Thus, GIF treatment during the primary response to OA facilitated the generation of antigen-specific suppressor T cells.

L20 ANSWER 21 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 104:127876 CA
TI Structure of asymmetric non-precipitating antibody: presence of a carbohydrate residue in only one Fab region of the molecule
AU Labeta, M. O.; Margni, R. A.; Leoni, Juliana; Binaghi, R. A.
CS Fac. Pharm. Biochem., Univ. Buenos Aires, Buenos Aires, Argent.
SO Immunology (1986), 57(2), 311-17
CODEN: IMMUAM; ISSN: 0019-2805
DT Journal
LA English
AB The reactions between purified precipitating and non-precipitating **anti**-dinitrophenyl (**DNP**) sheep and rabbit **antibodies** and the antigens **DNP**-bovine serum albumin (BSA) and DNP-GABA-BSA

were studied by immunodiffusion, complement fixation and an inhibition test. Both antigens reacted identically with precipitating antibodies, whereas non-precipitating antibodies did not precipitate and did not fix complement with DNP-BSA but did so with DNP-GABA-BSA. A different behavior with both antigens was also demonstrated by an inhibition test. The properties of these antibodies were also studied after treatment with endo-β-n-acetylglucosaminidase H. Non-precipitating antibody was able to give precipitin bands in gel diffusion and to fix complement with DNP-BSA after treatment with the enzyme. The treated antibody also agglutinated sensitized erythrocytes. Studies by fluorescence quenching showed that the affinity for the ligand DNP-GABA was significantly increased after hydrolysis of the carbohydrate residue. The properties of precipitating antibody were not modified by the endoglycosidase. Con A-Sepharose **affinity chromatog.** of the F(ab')2 and Fab fragments obtained from precipitating and non-precipitating antibodies showed that the Con A retained all the F(ab')2 and 50% of the Fab from non-precipitating antibody, whereas, the fragments from precipitating antibody were not retained at all. Thus, the asymmetry of the non-precipitating antibody mol. is due to a carbohydrate moiety which is present in only 1 of the Fab regions. This carbohydrate affects the reaction between the combining site and the antigen, and renders the mol. functionally univalent.

L20 ANSWER 22 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 102:165043 CA
TI In vivo activity of affinity-purified helper factor from antigen-specific helper clone
AU Azar, Yehudith; Falek, Paula R.; Kagan, Jacob; Ben-Sasson, Shlomo Z.
CS Hadassah Med. Sch., Hebrew Univ., Jerusalem, 91010, Israel
SO Journal of Immunology (1985), 134(3), 1717-22
CODEN: JOIMA3; ISSN: 0022-1767
DT Journal
LA English
AB Supernatant from culture of a virally transformed ovalbumin (OVA)-specific helper T clone (C-41) was examined for the presence of soluble helper factor. Inoculation of helper clone supernatant into dinitrophenyl-keyhole limpet hemocyanin (DNP-KLH)-primed mice enhanced the IgG **anti-DNP** response when given with DNP-OVA. The C-41 supernatant did not trigger the DNP-primed B cells in mice when injected with hapten (DNP) coupled to an unrelated carrier (bovine serum albumin, BSA). The carrier-dependent helper activity of C-41 supernatant in vivo demonstrates the presence of an antigen-specific T helper factor in the media of the cultured helper clone. Extensive immunization of F1(C57BL + BALB/c) mice with the helper clone resulted in the production of anti C-41 antibodies. Monoclonal antibodies prepared from the immunized mice were screened for specificity of binding to other transformed T lines and clones, some specific to OVA. Monoclonal antibodies that stained the C-41 cells exclusively were considered clone-specific. Supernatants of the helper clone were passed over columns of anti-clone-specific antibodies. The eluates from 3 antibodies were active as antigen-specific helper factor, i.e., they elevated the IgG **anti-DNP** response in vivo in a linked recognition fashion in the presence of DNP-OVA. The **affinity-purified** factor was inactive when injected with DNP-BSA or DNP-BSA + OVA. Thus, the antigen-specific immune function is described of a clone-produced helper factor in normal mice.

L20 ANSWER 23 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 102:58601 CA
TI A micro-scale preparation of affinity-purified Fab'-enzyme conjugates with high purity for enzyme immunoassay
AU Ruan, Ke He; Hashida, Seiichi; Ishikawa, Eiji

CS Dep. Biochem., Med. Coll. Miyazaki, Miyazaki, 889-16, Japan
SO Analytical Letters (1984), 17(B18), 2075-90
CODEN: ANALBP; ISSN: 0003-2719
DT Journal
LA English
AB A microscale method was developed for conjugating a small amount of **affinity-purified** IgG Fab' fragment to enzymes through thiol groups in the hinge of Fab'. 2,4-Dinitrophenyl (DNP) groups were introduced into rabbit antihuman chorionic gonadotropin (hCG) F(ab')2 before **affinity purification**, and the 2,4-DNP F(ab')2 (0.2-2.0 mg) was **affinity purified** by elution from a column of hCG-Sepharose 4B with 0.1M glycine-HCl buffer (pH 2.5) containing normal rabbit F(ab')2 (1.0 mg) as carrier. The **affinity-purified** 2,4-DNP F(ab')2, mixed with normal F(ab')2, was split into Fab' by reduction, treated with maleimide groups introduced into enzymes, and subjected to gel filtration to sep. the conjugates from unconjugated components. Finally, the **affinity-purified** 2,4-**DNP anti**-hCG Fab'-enzyme conjugates were separated from normal Fab'-enzyme conjugates and unconjugated enzyme, if any, by **affinity chromatog.** on a column of (**anti**-2,4-**DNP**) IgG-Sepharose 4B. The conjugate prepns. obtained by the microscale method were satisfactory in purity, antigen-binding activity, and usefulness for sandwich enzyme immunoassay. This method is applicable to conjugation not only with horseradish peroxidase but with other enzymes.

L20 ANSWER 24 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 102:4273 CA
TI Structural and functional analysis of spontaneous anti-nitrophenyl antibodies in three cyprinid fish species: carp (Cyrinus carpio), goldfish (Carassius auratus) and tench (Tinca tinca)
AU Vilain, Claude; Wetzel, Marie Cecile; Du Pasquier, Louis; Charlemagne, Jacques
CS Lab. Immunol. Comparee, Univ. Pierre et Marie Curie, Paris, 75005, Fr.
SO Developmental & Comparative Immunology (1984), 8(3), 611-22
CODEN: DCIMDQ; ISSN: 0145-305X
DT Journal
LA English
AB High spontaneous anti-trinitrophenyl (TNP) activities were found in 3 Cyprinid fish species: carp (C. carpio), goldfish (C. auratus) and tench (T. tinca). The mols. involved, isolated by **affinity chromatog.** on dinitrophenyl-lysine Sepharose (DNP-lysine-Sepharose), had the main characteristics of a high mol. weight Ig. Affinity measurements were performed on natural **anti-DNP**/TNP **antibodies** isolated from 9 individual tench sera, using the inhibition of DNP-T4 bacteriophage inactivation technique. The antibodies were more specific for TNP than for DNP. No activity was found against p-nitrophenyl hapten. Affinities were all very low, even for TNP. In the 3 species, natural **anti-DNP**/TNP **antibodies** constitute as much as 11-16% of the total Ig concentration This high level of nitrophenyl-binding serum Igs either suggests the existence of a particular regulatory mechanism in fish or reflects a generally low antibody diversity in these species.

L20 ANSWER 25 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 101:5155 CA
TI A study of multispecific interactions by quantitative affinity chromatography
AU Inman, John K.
CS Lab. Immunol., Natl. Inst. Allergy Infect. Dis., Bethesda, MD, USA
SO Affinity Chromatogr. Biol. Recognit., [Proc. Int. Symp.], 5th (1983), 153-63. Editor(s): Chaiken, Irwin M.; Wilchek, Meir; Parikh, Indu. Publisher: Academic, Orlando, Fla.

CODEN: 51ILA9
DT Conference
LA English
AB The hypothesis of multispecificity in antigen-antibody reactions is discussed and quant. **affinity chromatog.** was used to determine equilibrium association consts. of monoclonal antibodies, such as 3H-labeled monoclonal **antibody** to 2,4-**dinitrophenol**. The primary screening and quant. theory for determining the binding constant of competitive inhibitors are discussed, and the binding consts. of several compds. screened for interaction with an anti-2,4-dinitrophenyl monoclonal antibodies are given.

L20 ANSWER 26 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 97:213962 CA
TI Generation of monoclonal murine anti-DNP-IgE, IgM and IgG1 antibodies: biochemical and biological characterization
AU Bohn, A.; Koenig, W.
CS Arbeitsgruppe Infektabwehrmech., Ruhr-Univ. Bochum, Bochum, D-4630, Fed. Rep. Ger.
SO Immunology (1982), 47(2), 297-311
CODEN: IMMUAM; ISSN: 0019-2805
DT Journal
LA English
AB Monoclonal dinitrophenyl (DNP)-specific IgG ($\lambda 2\varepsilon 2$), IgM ($\kappa 2\mu 2$), and IgG [$\kappa 2(\gamma 1)2$] were isolated from the culture supernatant of hybridomas by **affinity chromatog**. on DNP-bovine serum albumin (DNP-BSA) Sepharose and characterized by biochem. and biol. methods. The mol. wts. were 84,200 for the ε chain, 55,400 for the γ chain, and 77,500 for the μ chain as determined by SDS-polyacrylamide gel electrophoresis (SDS-PAGE). The association consts. for [3H]DNP-lysine determined by equilibrium dialysis were 0.87 + 107 L/mol for IgE and 1.91 + 108 L/mol for IgG1. The isoelec. focusing of the purified monoclonal antibodies revealed for IgG1 7 bands at a pH range of 6.3-7.2 and for IgE 16 bands at a pH range of 4.5-6.8. The binding of 125I-labeled anti-IgE to rat basophilic leukemia (RBL) and rat mast cells which had been preincubated with various amts. of monoclonal IgE was studied. At saturation conditions of IgE, .apprx.2.14 + 105 mols. of anti-IgE were bound per rat mast cell. Rat mast cells coated with monoclonal **anti-DNP** IgE were triggered for the release of histamine in the presence of either the antigen or guinea pig anti-mouse IgE. A mutual inhibition of the passive cutaneous anaphylaxis (PCA) reaction in the rat by either mixing mouse reaginic serum directed against ovalbumin or rat reaginic serum directed against Nippostrongylus brasiliensis with monoclonal mouse **anti-DNP** IgE was demonstrated.

L20 ANSWER 27 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 97:52004 CA
TI Immobilization of enzymes and affinity ligands onto agarose via stable and uncharged carbamate linkages
AU Wilchek, Meir; Miron, Talia
CS Dep. Biophys., Weizmann Inst. Sci., Rehovot, Israel
SO Biochemistry International (1982), 4(6), 629-35
CODEN: BIINDF; ISSN: 0158-5231
DT Journal
LA English
AB A method of described for the activation of agarose with chloroformates containing good leaving groups, such as p-nitrophenylchloroformate, N-hydroxysuccinimidechloroformate, and trichlorophenylchloroformate. The activated carbonates react smoothly with proteins and affinity ligands giving stable urethane (N-alkylcarbamate) derivs. devoid of charge. The

usefulness of these new matrices was demonstrated by immobilization of trypsin and by affinity purification of anti-dinitrophenyl antibody and trypsin. These columns will be particularly useful in cases where difficulties arising from ligand leakage cannot be ignored.

L20 ANSWER 28 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 95:183354 CA
TI Use of [125I]-labeled anti-2,4-dinitrophenyl (DNP) antibodies as a general tracer in solid-phase radioimmunoassays
AU Neurath, A. R.
CS New York Blood Cent., New York, NY, 10021, USA
SO Methods in Enzymology (1981), 73(Immunochem. Tech., Part B), 127-38
CODEN: MENZAU; ISSN: 0076-6879
DT Journal
LA English
AB The use of 125I-labeled **anti-DNP antibodies** in radioimmunoassays is discussed, and the advantages of this procedure are (1) only a single antibody is used in all tests, (2) the introduction of **DNP** groups into primary **antibodies** leads to amplified radiotracer binding, and (3) the necessity to purify each antibody immunochem. is eliminated. Procedures are given for antibody preparation from immunoppts. by DEAE-cellulose chromatog., **anti-DNP antibody** purification by **affinity chromatog.** on DNP-aminoethyl cellulose, and labeling of **antibodies** with **DNP** or **DNP**-lysine. The performance of the title tracer is reviewed.

ordered 3/19/04

L20 ANSWER 29 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 94:154759 CA
TI Phylogeny of immunoglobulin structure and function. IX. Intramolecular heterogeneity of shark 19S IgM antibodies to the dinitrophenyl hapten
AU Shankey, T. Vincent; Clem, L. William
CS Coll. Med., Univ. Florida, Gainesville, FL, 32610, USA
SO Journal of Immunology (1980), 125(6), 2690-8
CODEN: JOIMA3; ISSN: 0022-1767
DT Journal
LA English
AB IgM **antibodies** to **DNP** were isolated by **affinity chromatog.** from the sera of nurse sharks immunized with dinitrophenylated streptococcal cells. The isolated antibodies from some animals were of the 19 S variety, although in other cases both 19 S and 7 S forms were seen; there was no evidence of a temporal sequence when both species were present. The 19 S antibodies exhibited heterogeneity of ligand binding with an average of 5 high and 5 low affinity sites per/mol. The 7 S antibodies, when isolated, appeared to have 1 high and 1 low affinity site of similar affinity as those of the 19 S mols. from the same bleeding. No evidence of increased affinity of either antibody population was seen for up to 21 mo of immunization. Neither steric hindrance nor allosteric effects could account for the observed heterogeneity. The 19 S **anti-DNP** prepns. separated by isoelec. contained an average of 5 high and 5 low affinity sites/mol. Recombination studies with mildly reduced heavy and light chains from focused 19 S antibodies resulted in the recovery of active .apprx.7 S recombinants containing high and low affinity sites indistinguishable from those of the original mols. These findings suggest that the isoelec. focused prepns. were homogeneous and the heterogeneity of ligand binding was an intramol. phenomenon. Treatment of shark 19 S **anti-DNP antibodies** with guanidine-HCl resulted in the conversion of the 5 high affinity sites to low affinity ones, i.e., the resultant 19 S mols. contained 10 low affinity sites. Thus, the heterogeneity of ligand binding by nurse shark 19 S **antibodies** to the **DNP** moiety cannot be attributed solely to intermol. structural heterogeneity but rather likely involves intramol.

heterogeneity at the conformational level.

L20 ANSWER 30 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 93:24169 CA
TI Monoclonal dinitrophenyl-specific murine IgE antibody: preparation, isolation, and characterization
AU Liu, Fu-Tong; Bohn, Joseph W.; Ferry, Elizabeth L.; Yamamoto, Hiroshi; Molinaro, Christine A.; Sherman, Linda A.; Klinman, Norman R.; Katz, David H.
CS Dep. Cell. Dev. Immunol., Scripps Clin. Res. Found., La Jolla, CA, 92037, USA
SO Journal of Immunology (1980), 124(6), 2728-37
CODEN: JOIMA3; ISSN: 0022-1767
DT Journal
LA English
AB A murine hybridoma secreting monoclonal IgE antibodies of **anti**-2,4-dinitrophenyl (**DNP**) specificity was generated by fusion of SP2/0 tumor cells and spleen cells from DNP-Ascaris-hyperimmunized mice. Hybridomas secreting **anti-DNP antibodies** of other heavy chain classes, i.e., μ, γ1 and γ2b, were also obtained from the same fusion experiment Large quantities of IgE antibodies were obtained from ascites of mice in which the IgE-secreting hybridoma was propagated in vivo. The IgE antibodies were isolated by precipitation with (NH4)2SO4 followed by **affinity chromatog.** on DNP-bovine serum albumin (BSA)-Sepharose-4B and further purified by ion-exchange chromatog. on DEAE-cellulose and gel filtration on Sephadex G-200. The isolated IgE has an approx. mol. weight of 184,000, a total carbohydrate content of 13.3%, and its amino acid composition was determined The antibody has an association constant with DNP-lysine of 1.4 + 108 M-1 at 25° and 7.1 + 107 M-1 at 37°. Rabbit and goat antibodies against the hybridoma IgE were prepared and the antisera were made specific for IgE by adsorption on normal mouse serum protein-Sepharose-4B. Solid phase radioimmunoassays for measuring murine antigen-specific and total IgE were developed and have high specificity and sensitivity. Finally, the isolated hybridoma IgE can mediate antigen (DNP-BSA)-induced release of mediator (serotonin) from rat basophilic leukemia cells.

ordered 3/19/07

L20 ANSWER 31 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 92:4513 CA
TI Nonantibody components in porcine **anti-DNP antibody** preparations obtained by **affinity chromatography**
AU Franek, Frantisek; Saber, Mohamed A.; Doskocil, Jiri; Novotny, Josef; Fust, Gyorgy
CS Inst. Org. Chem. Biochem., Czechoslovak Acad. Sci., Prague, 160 20/6, Czech.
SO Molecular Immunology (1979), 16(6), 389-94
CODEN: MOIMD5; ISSN: 0161-5890
DT Journal
LA English
AB Porcine anti-dinitrophenyl (DNP) antibody prepns. contained high-mol.-weight protein components in addition to specific anti-DNP antibodies of IgG class. The high-mol.-weight components were resolved by gel chromatog. into 3 fractions. Antigenic anal. and assays of antibody activity with the aid of chemical modified bacteriophage revealed the presence of IgM having neither anti-DNP nor anti-Ig activity, and the presence of several non-Ig components. These components, mutually antigenically related, were present in all fractions obtained by gel chromatog. The non-Ig components were antigenically related to a protein having β-globulin electrophoretic mobility occurring in pig serum. The amino acid composition of the non-Ig component (mol. weight 520,000) displayed a certain relatedness to

C3 and C4. The addition of EDTA to the anti-DNP serums could not prevent the appearance of non-Ig proteins. The non-Ig proteins were virtually absent in the anti-DNP antibody preparation obtained from a serum that had been treated with an unrelated antigen-antibody precipitate

L20 ANSWER 32 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 90:101660 CA
TI Characterization of the target cell receptor for IgE. IV. Isolation of IgE-receptor complexes
AU Conrad, D. H.; Froese, A.
CS MRC Group Allergy Res., Univ. Manitoba, Winnipeg, MB, Can.
SO Immunochemistry (1978), 15(5), 283-8
CODEN: IMCHAZ; ISSN: 0019-2791
DT Journal
LA English
AB Rat basophilic leukemia (RBL) cell IgE receptor-IgE complexes were isolated from exts. of RBL cells treated with dinitrophenyl-IgE (DNP-IgE) by **affinity chromatog.** on **anti-DNP** -Sepharose columns using DNP-OH as eluant. Polyacrylamide gel anal. of eluates, of which 51-65% was precipitable by anti-IgE, gave a single surface component, mol. weight .apprx.45,000 daltons.

L20 ANSWER 33 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 89:40678 CA
TI Isolation and characterization of the receptor for IgE from rat basophilic leukemia cells
AU Conrad, D. H.; Froese, A.
CS Dep. Immunol., Univ. Manitoba, Winnipeg, MB, Can.
SO Protides of the Biological Fluids (1978), Volume Date 1977, 25, 689-92
CODEN: PBFPA6; ISSN: 0079-7065
DT Journal
LA English
AB Isolation of receptors for IgE from Nonidet P-40 (NP-40) solubilized, 125I-surface labeled rat basophilic leukemia (RBL) cells was achieved by **affinity chromatog.** using 2 techniques. First, solubilized cells were added to a column with 3M KSCN. About 20% of the eluted receptor would recombine with IgE. RBL cells were reacted with dinitrophenylated IgE. The washed cells were solubilized and applied to conjugates of bovine **anti-DNP antibodies** and Sepharose 4B. After elution with 0.1M dinitrophenolate, .apprx.60% of the surface material still appeared to be bound by IgE. Anal. on Na dodecyl sulfate-polyacrylamide gels indicated that both eluates contained a surface component previously identified as the receptor for IgE. The KSCN eluate contained a 2nd component, the identity of which is not as yet certain.

L20 ANSWER 34 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 88:4584 CA
TI Quantitative and qualitative aspects of the antibody library of sharks
AU Clem, L. William; McLean, W. Edsel; Shankey, Vincent
CS Coll. Med., Univ. Florida, Gainesville, FL, USA
SO Advances in Experimental Medicine and Biology (1975), 64(Immunol. Phylogeny), 231-9
CODEN: AEMBAP; ISSN: 0065-2598
DT Journal
LA English
AB The immunol. responses of nurse sharks (Ginglymostoma cirratum) to native and nitrophenyllysine-coupled streptococcal polysaccharides were studied in terms of defining the quantities, the classes, and the hetero- or homogeneity, both in terms of class and active site conformation, of the antibody produced, and whether such factors change (mature) during the course of immunization. Some 10 of 14 animals hyperimmunized with heat-killed, pepsinized streptococcal A-variant vaccine produced >5 mg

antibody/mL to the group specific carbohydrate; responses to the group A carbohydrate were quant. much reduced in comparison with the response to the A-variant carbohydrate. By **affinity chromatog.** 75% of the precipitating antibodies were recovered from the serum, >95% of which was 19 S Ig. Using guinea pig antiserum against the A-variant streptococcal carbohydrate antibodies, ≥5 idiotypes were demonstrated. Similarly, **antibodies** to dinitrophenyl (**DNP**) haptens were obtained at a level of 50-400 μg antibody/mL from about the 40 day through 2-1/2 y of immunization with >90% of it being 19 S Ig, with no significant 7 S, in each of 6 sharks with 1 exception; in that shark 30-40% of the **anti-DNP antibody** was 7 S Ig. Equilibrium dialysis of such 19 S antibodies indicated the presence of 5 high affinity sites (K0 .simeq. 105-5 + 106) and of some sites of .apprx.2 orders of magnitude lower affinity. Thus, antibody responsiveness and heterogeneity in the shark is greater than is commonly believed.

L20 ANSWER 35 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 81:147877 CA
TI Enrichment of tRNA cistrons from Escherichia coli using antibody affinity chromatography
AU Miller, William L.; Brenner, Don J.; Doctor, B. P.
CS Walter Reed Army Inst. Res., Walter Reed Army Med. Cent., Washington, DC, USA
SO Biochimica et Biophysica Acta (1974), 366(2), 188-98
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English
AB An **affinity chromatog.** procedure was used for the enrichment of single-stranded DNA fragments from E. coli that contained the tRNA cistrons. The method used a specific **antibody** to 2,4-**dinitrophenol** to bind dinitrophenyl that was covalently attached to the tRNA of a DNA·tRNA hybrid. In this method, 2,4-dinitrophenylhydrazine was reacted with periodate oxidized 2',3'-terminal ribose of tRNA to form the dinitrophenylhydrazone of tRNA (tRNA-phenylhydrazone). Anti-dinitrophenyl antibody was attached to agarose gel via CNBr activation. The tRNA phenylhydrazone was bound quant. to the solid support and was subsequently eluted from the gel with mM dinitrophenyl. The DNA·tRNA-phenylhydrazone hybrid was bound to and eluted from the anti-dinitrophenyl antibody agarose gel with 35-40% efficiency. The column bound <0.1% of unhybridized single-stranded DNA or double-stranded DNA. The procedure was rapid and allowed isolation of hybrids at low temperature Transfer RNA cistron containing DNA fragments were enriched .apprx.200-400-fold in 1 cycle of purification The method could be modified for the isolation of cistrons for any RNA species that could be obtained in purified form.

L20 ANSWER 36 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 79:40763 CA
TI Active sites of turtle and duck low molecular weight antibody to 2,4-dinitrophenol
AU Litman, G. W.; Chartrand, S. L.; Finstad, C. L.; Good, R. A.
CS Dep. Pathol., Univ. Minnesota, Minneapolis, MN, USA
SO Immunochemistry (1973), 10(5), 323-9
CODEN: IMCHAZ; ISSN: 0019-2791
DT Journal
LA English
AB Low mol. weight **antibody** directed to the **dinitrophenol** (DNP) grouping was raised in both turtles and ducks by repeated challenge with DNP-Brucella abortus. Antibody was purified from the serum of both species by a combination of **affinity chromatog.** and gel filtration. Purified antibody, upon interaction with hapten, induced

a shift in the visible absorption spectra of the hapten suggestive of the participation of tryptophan in the active sites of the 2 antibody forms analyzed. Affinity labeling of the 2 antibody forms was effected with the hapten analog, m-nitrobenzene diazonium fluoroborate. Examination of the diazo spectra of the labeled antibody suggested the participation of tyrosine in the active site of both turtle and duck antibody and the participation of at least residue in the active site of the turtle antibody. Affinity label distributed in different ratios on the heavy and light chains of the 2 antibody forms. The studies indicate basic similarities between the active sites of antibodies derived from 2 lower vertebrate species and several previously characterized mammalian species.

L20 ANSWER 37 OF 46 CA COPYRIGHT 2004 ACS on STN
AN 77:59866 CA
TI Activity of migration inhibitory factor in the absence of antigen
AU Yoshida, Takeshi; Janeway, Charles A., Jr.; Paul, William E.
CS Natl. Inst. Allergy Infect. Dis., Natl. Inst. Health, Bethesda, MD, USA
SO Journal of Immunology (1972), 109(2), 201-6
CODEN: JOIMA3; ISSN: 0022-1767
DT Journal
LA English
AB The possibility that the activity of migration inhibitory factor (MIF) requires the presence of antigen in the culture of nonimmune peritoneal exudate cells has been suggested by several authors. In order to study such antigen-dependent MIF, lymph node cell cultures from guinea pigs immunized with various DNP-protein conjugates were stimulated with the immunizing antigen in vitro. The antigen was removed from MIF-containing supernatants by **affinity chromatog.** on **anti-DNP**-agarose bead columns. The effluent material retained full MIF activity despite the absence of antigen. Addition of antigen did not increase the activity of these antigen-free supernatants. Moreover, no MIF activity could be subsequently eluted from the **anti-DNP**-agarose bead column by treatment with dilute acid, suggesting that no MIF, as antigen-MIF complex, had been removed by the **anti-DNP** column. In addition, DNP-protein-agarose bead conjugates stimulated lymphocytes to produce active MIF, although no antigen could be detected in these MIF-containing supernatants. Addition of antigen did not increase the activity of the supernatant. Thus, in these systems, no evidence for antigen-dependent MIF was obtained.

L20 ANSWER 38 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1990:285431 BIOSIS
DN PREV199090016277; BA90:16277
TI AUTOIMMUNE MICE MAKE ANTI-FC-Y RECEPTOR ANTIBODIES.
AU BOROS P [Reprint author]; CHEN J; BONA C; UNKELESS J C
CS DEP BIOCHEM, BOX 1020, MOUNT SINAI SCH MED, 1 GUSTAVE LEVY PLACE, NEW YORK, NY 10029, USA
SO Journal of Experimental Medicine, (1990) Vol. 171, No. 5, pp. 1581-1596.
CODEN: JEMEAV. ISSN: 0022-1007.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 23 Jun 1990
Last Updated on STN: 23 Jun 1990
AB We demonstrate, using a recombinant truncated FcγRII molecule as a probe, the presence of anti-FcγR antibodies in several strains of autoimmune mice. **Affinity chromatography** on a truncated FcγR column of pooled sera from aged NZB females resulted in isolation of 16 μg of IgM per ml of serum, .apprx.2% of the total IgM; no anti-FcγR IgM was found in sera from C58/J mice. Mice with high titers of antiFcγR IgM also had anti-FcγR IgG. **Affinity-purified** anti-FcγR IgG bound to FcγR-bearing cells. A good correlation was found between the

presence of anti-FcγR Ig and impaired phagocytosis of immune complexes in autoimmune strains as such as NZB or NZB/NZW F1. Sera with high titers of anti-FcγR Ig from NZB and motheaten mice inhibited the binding of soluble immune complexes. Furthermore, BXSB, a lupus-prone mouse strain that does not produce anti-FcγR Ig, showed normal macrophage binding and phagocytosis of immune complexes. A set of four IgM mAbs that bind to FcγR was identified. These antibodies were polyspecific; some were directed against DNA, and others recognized a wide variety of antigens including histones, thyroglobulin, and transferrin, but all anti-FcγR IgM antibodies effectively inhibited the binding of IgG1 **anti-DNP**/DNP20BSA complexes to J774 macrophages. The role of anti-FcγRs on neutrophils remains to be established. It may act to crosslink and activate FcγRs on neutrophils, macrophages, NK, and mesangial cells, or it may densensitize FcγR function of FcγR function of FcγR-bearing cells.

L20 ANSWER 39 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1988:332928 BIOSIS
DN PREV198886039479; BA86:39479
TI ROLE OF A SER IMMUNE SUPPRESSOR IN IMMUNE SURVEILLANCE.
AU OH S K [Reprint author]; ROSS S; WALKER J; ZEISEL S
CS DEP MICROBIOL, BOSTON UNIV SCH MED, 80 E CONCORD ST, BOSTON, MASS 02118, USA
SO Immunology, (1988) Vol. 64, No. 1, pp. 73-80.
CODEN: IMMUAM. ISSN: 0019-2805.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 21 Jul 1988
Last Updated on STN: 21 Jul 1988
AB A potent immunosuppressor factor, known as SER (suppressive E-receptor factor) has been identified in the body fluids of cancer patients. SER has been proven to be immunochemically analogous to the fetal form of haptoglobin. In this paper, we examine the role of SER immune suppressor in the immune surveillance mechanism of the host, using an **affinity-purified** SER. As shown in this study, SER, at μg/ml concentrations, inhibits the T-cell proliferation induced with either monoclonal or polyclonal T-cell activators in vitro in human, and also inhibits the primary antibody response to T-dependent antigens in vivo in mice. Likewise, SER also inhibits the immunoglobulin synthesis of human B lymphocytes induced by a B-cell mitogen, pokeweed mitogen, in the presence of a tumor promoter, phorbol myristate acetate (PMA). In contrast to the T-dependent antibody response in vivo in mice or T-dependent mitogen response in vitro in human, SER does not interfere with the T-independent **antibody** responses to **DNP** -Ficoll or TNP-LPS in mice. SER also interferes with the natural killer cell function of human peripheral blood mononuclear cells. Although SER inhibits the phagocytic functions of human peripheral neutrophils, it requires at least 10-20 times the concentration of SER present in normal human plasma. Since this concentration of SER is attainable in the sera of solid tumor-bearing patients, highly elevated levels of SER could predispose the patients to microbial infections as well. This study demonstrates that purified SER manifests multi-faceted down-regulatory effects on the defence mechanisms of hosts, thereby it could compromise the patients' cell-mediated immunity in vivo.

L20 ANSWER 40 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1988:133788 BIOSIS
DN PREV198885068615; BA85:68615
TI SECRETORY IMMUNITY INDUCED IN CATFISH ICTALURUS-PUNCTATUS FOLLOWING BATH IMMUNIZATION.
AU LOBB C J [Reprint author]
CS DEP MICROBIOL, UNIV MISS MED CENT, JACKSON, MISS 39216, USA

SO Developmental and Comparative Immunology, (1987) Vol. 11, No. 4, pp. 727-738.
CODEN: DCIMDQ. ISSN: 0145-305X.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 12 Mar 1988
Last Updated on STN: 12 Mar 1988
AB Individual adult channel catfish were immunized by immersion in an antigen bath containing dinitrophenylated-horse serum albumin. **Anti-DNP** hemagglutination titers of serum and cutaneous mucus were determined following both primary and secondary bath immunization. The results showed that five of the six fish had a cutaneous mucosal **anti-DNP** titer following the bath immunizations. In contrast, only one of the six catfish was shown to have any demonstrable change in its serum **anti-DNP** titer following the bath immunizations. The mucous **anti-DNP** hemagglutinin was shown to be antibody (Ab). The **affinity-purified** mucous Ab was found to have the same complex tetrameric architecture as well as the same molecular weight heavy and light chains as serum **anti-DNP** Ab. Histological studies showed that the catfish epidermis was richly vascularized. Within the epidermis there were numerous lymphocytes which were predominantly associated with the basal layer. These studies indicate that the secretory immune system of catfish can be stimulated by external antigens. Secondly, these studies show that bath immunization can differentially effect the relative antibody response of the catfish secretory and systemic immune systems.

L20 ANSWER 41 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1988:71390 BIOSIS
DN PREV198885037689; BA85:37689
TI PURIFICATION OF POLYMERIC IMMUNOGLOBULIN FROM CELL CULTURE SUPERNATANTS BY AFFINITY CHROMATOGRAPHY USING SECRETORY COMPONENT.
AU JONES C L [Reprint author]; GEORGIOU G M; FOWLER K J; WAJNGARTEN P I; ROBERTON D M
CS DEP PAEDIATR, ROYAL CHILD HOSP, FLEMINGTON ROAD, PARKVILLE 3052, VICTORIA, AUST
SO Journal of Immunological Methods, (1987) Vol. 104, No. 1-2, pp. 237-244.
CODEN: JIMMBG. ISSN: 0022-1759.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 27 Jan 1988
Last Updated on STN: 27 Jan 1988
AB Human secretory component bound covalently to Sepharose 4B has been used as an **affinity adsorbent** to isolate and purify polymeric immunoglobulin from cell culture supernatants. The method was used to isolate murine IgM isotype anti-lymphocyte antibody from hybridoma cell culture supernatants. Gel filtration of the eluted antibodies followed by enzyme immunoassay showed that all recovered IgM was of pentameric molecular size. Murine IgA isotype **anti-dinitrophenol antibody** and murine IgA anti-human rotavirus antibody were isolated from cell culture supernatants of a plasmacytoma and a hybridoma respectively. Most of the IgA recovered following **affinity adsorption** with secretory component was of greater molecular size than dimer. Murine IgG was not adsorbed by secretory component bound to Sepharose. Eluted antibody retained antigen binding activity. **Affinity chromatography** using human secretory component bound covalently to a solid phase provides an antigen-independent technique for purification of murine and rat IgA and IgM polymeric immunoglobulin from cell cultures.

L20 ANSWER 42 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

AN 1988:2994 BIOSIS
DN PREV198885002994; BA85:2994
TI ANTIBODY DIVERSITY IN TROUTS OBTAINED BY GYNOGENESIS OR SELF-FERTILIZATION COMPARATIVE ANALYSIS OF THE HEAVY CHAIN SPECTROTYPES.
AU DESVAUX F-X [Reprint author]; COSSARINI-DUNIER M; CHILMONZCYK S; CHARLEMAGNE J
CS LAB D'IMMUNOL COMPAREE, UNIV PIERRE MARIE CURIE, CNRS UA 1135, 9 QUAI ST-BERNARD, C30, 75005 PARIS
SO Developmental and Comparative Immunology, (1987) Vol. 11, No. 3, pp. 577-584.
CODEN: DCIMDQ. ISSN: 0145-305X.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 5 Dec 1987
Last Updated on STN: 5 Dec 1987
AB Conventional (C) trouts and trouts obtained by gynogenesis (G) or self-fertilization (SF) were immunized with **DNP**-KLH and **anti-DNP antibodies** were individually purified by **affinity chromatography**. The isolated IgM-like antibodies were separated by an iso-electrofocusing technique in reducing conditions and electroblotted onto nitrocellulose. The transfers were probed with a mouse monoclonal antibody specific for trout heavy (H) antibody chain and revealed with a rabbit anti-mouse IgG horse-radish peroxidase conjugate. When comparing the IEF H chain spectrotypes of C, G and SF trouts, it was observed that individual C spectrotypes are more different, between themselves than G and SF spectrotypes, and that individual SF spectrotypes were less heterogeneous than C or G ones. These results suggest that in trout, inbreeding induces a reduction of antibody diversity and heterogeneity. The inheritance of antibody repertoire might be taken in account in the inbreeding selection schedules for fish of economical interest.

L20 ANSWER 43 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1985:407164 BIOSIS
DN PREV198580077156; BA80:77156
TI ANTIBODY DIVERSITY IN FISH ISOELECTROFOCALIZATION STUDY OF INDIVIDUALLY PURIFIED SPECIFIC ANTIBODIES IN 3 TELEOST FISH SPECIES TENCH CARP AND GOLDFISH.
AU WETZEL M-C [Reprint author]; CHARLEMAGNE J
CS LAB D'IMMUNOLOGIE COMPAREE, UNIV PIERRE ET MARIE CURIE, 9 QUAI SAINT-BERNARD, 75005 PARIS, FR
SO Developmental and Comparative Immunology, (1985) Vol. 9, No. 2, pp. 261-270.
CODEN: DCIMDQ. ISSN: 0145-305X.
DT Article
FS BA
LA ENGLISH
AB Natural **anti-DNP** [dinitrophenyl] **antibodies** were isolated by **affinity chromatography** from individual sera of 3 Cyprinid fish species (carp, goldfish and tench) and their electrofocusing (IEF) spectra were analyzed in reducing conditions. Immune anti-penicillin and anti-BSA [bovine serum albumin] antibodies were isolated from individual and pooled tench sera and studied by IEF techniques on reduced samples. Diversity rates appeared to be rather low in the 3 fish species, and striking similarities arose between individuals of the same species. These results can be interpreted by the existence of particular selective pressures operating in poikilothermic species as was already suggested by Du Pasquier. No enhancement of antibody heterogeneity could be detected in the tetraploid (carp and goldfish) species. This result is also in accordance with the selection of a restricted germ-line determined antibody repertoire in lower vertebrates.

L20 ANSWER 44 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1985:306428 BIOSIS
DN PREV198579086424; BA79:86424
TI PREPARATION OF A MONOMERIC 2 4 DINITROPHENYL FAB'-BETA-D-GALACTOSIDASE CONJUGATE FOR IMMUNOENZYMOMETRIC ASSAY.
AU IMAGAWA M [Reprint author]; HASHIDA S; ISHIKAWA E; FREYTAG J W
CS DEP BIOCHEM, MED COLL MIYAZAKI, KIYOTAKE, MIYAZAKI 889-16
SO Journal of Biochemistry (Tokyo), (1984) Vol. 96, No. 6, pp. 1727-1736. CODEN: JOBIAO. ISSN: 0021-924X.
DT Article
FS BA
LA ENGLISH
AB A method is described for the preparation of a monomeric Fab'-β-D-galactosidase conjugate, which is required for the development of a sensitive immunoenzymometric assay. Anti-human IgG F(ab')2 was labeled with 2,4-dinitrophenyl (DNP) groups, split into Fab' by reduction and reacted with excess maleimide groups which had been introduced into β-D-galactosidase through thiol groups using N,N'-o-phenylenedimaleimide. The monomeric DNP Fab'-β-D-galactosidase conjugate was subsequently separated from unconjugated β-D-galactosidase by **affinity chromatography** on a column of (**anti-DNP**) IgG-Sepharose 4B. In the monomeric conjugate preparation, 98% of β-D-galactosidase activity was associated with Fab' and 90% was associated with specific (anti-human IgG) Fab'. This conjugate allowed the measurement of 0.1 fmol of human IgG by an immunoenzymometric assay technique.

L20 ANSWER 45 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1984:250879 BIOSIS
DN PREV198477083863; BA77:83863
TI THE INTERNAL IMAGE OF IMMUNO GLOBULIN G IN CROSS REACTIVE ANTI IDIOTYPIC ANTIBODIES AGAINST HUMAN RHEUMATOID FACTORS.
AU FONG S [Reprint author]; GILBERTSON T A; CARSON D A
CS DEP BASIC CLINICAL RES, SCRIPPS CLINIC RES FOUNDATION, 10666 NORTH TORREY PINES RD, LA JOLLA, CA 92037, USA
SO Journal of Immunology, (1983) Vol. 131, No. 2, pp. 719-724. CODEN: JOIMA3. ISSN: 0022-1767.
DT Article
FS BA
LA ENGLISH
AB A network of idiotypes and anti-idiotypes has been hypothesized to modulate antibody production against exogenous antigens. Idiotypic antigens on autoantibodies have been studied because of their potential use for specific immunomodulation. Studies are presented which describe the preparation and characterization of rabbit anti-idiotypic antibody against human IgM anti-IgG autoantibodies (rheumatoid factors, RF) that bear the internal image of the human IgG-Fc fragment, and hence react specifically with the majority of RF from patients with rheumatoid arthritis. The anti-idiotype was isolated from rabbit anti-RF antisera by either immunodepletion of anti-Ig antibodies, or more simply by a single **affinity purification** step on a rabbit anti-human IgG Fc column. As measured by an enzyme-linked immunoassay, the anti-idiotype prepared by both methods bound to plates coated with purified IgM RF, but not to plates coated with non-RF IgM proteins. The anti-idiotype dose dependently blocked the binding to IgG of IgM-RF in 83% of sera from multiple patients with rheumatoid arthritis, Sjogren's syndrome and macroglobulinemia. The anti-idiotype did not inhibit the activity of human IgM **antibodies** against **DNP** [dinitrophenyl], tetanus toxoid or thyroglobulin. The antigen recognized by the cross-reactive anti-idiotype was not apparently associated with a particular L or H chain amino acid sequence, but rather was intrinsic to most Ig with RF activity. Broadly cross-reactive anti-idiotypes with the internal image of IgG are simple to generate, and react with most RF.

They may facilitate studies on the specific regulation of the human anti-IgG autoantibody response.

L20 ANSWER 46 OF 46 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1983:258090 BIOSIS
DN PREV198376015582; BA76:15582
TI THE INTERACTION OF HUMAN AND RODENT IMMUNO GLOBULIN E WITH THE HUMAN BASOPHIL IMMUNO GLOBULIN E RECEPTOR.
AU CONRAD D H [Reprint author]; WINGARD J R; ISHIZAKA T
CS SUBDEP IMMUNOL, JOHN HOPKINS UNIV SCH MED, GOOD SAMARITAN HOSP, 5601 LOCH RAVEN BLVD, BALTIMORE, MD 21239, USA
SO Journal of Immunology, (1982) Vol. 130, No. 1, pp. 327-333.
CODEN: JOIMA3. ISSN: 0022-1767.
DT Article
FS BA
LA ENGLISH
AB The cross-reactivity of the human IgE [hIgE] receptor with mouse and rat IgE was studied. Using leukocytes from a patient with chronic myelogenous leukemia, in which the mononuclear fraction contained up to 75% basophils, both rat and mouse IgE the binding of 125I-hIgE to the human basophilic leukemia (HBL cellar. About 15-fold more rodent IgE was required for 50% inhibition of binding than unlabeled hIgE. Dose-response studies using increasing amounts of rodent vs. human 125I-IgE indicated that the HBL cells had .apprx. 8000 receptors/cell for hIgE and 5500 receptors/cell for rodent IgE. When the HBL cells were surface labeled with 125I and subsequently solubilized with non-ionic detergent, the labeled hIgE receptor was isolated by either **affinity chromatography** on IgE-Sepharose (either human or rodent) or by immunoprecipitation with hIgE and anti-IgE. By SDS-PAGE [sodium dodecyl sulfate-polyacrylamide gel electrophoresis]on 10% gels, the receptor had a MW of 58,000 daltons. The solubilized receptors exhibited some rebinding to hIgE-Sepharose, and this rebinding was inhibited by either human or rodent IgE but not by human IgG. Both the HBL cells and normal human basophils were passively sensitized with murine IgE **anti-DNP** for antigen-induced histamine release. The minimum concentration of the mouse IgE antibody for sensitizing normal basophils was 20-200 ng/ml. Pretreatment of basophils with hIgE, but not human IgG, abrogated the capacity of the murine IgE antibody to sensitize the cells for histamine release, which indicated that the human and rodent IgE were interacting with the same receptor.

=> log y

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2	1048	(natural$6 near2 autoantibody) or (natural$6 near2 (auto adj antibody)) or (polyreact$6 near2 (auto adj antibody)) or (polyreact$6 near2 autoantibody) or (polyreact$6 near2 antibody) or (polyreact$6 near2 immunoglob$8) or (polyspecific near2 (auto adj antibody)) or (polyspecific$6 near2 (auto adj antibody)) or (polyspecific$6 near2 autoantibody) or (polyspecific$6 near2 antibody) or (polyspecific$6 near2 immunoglob$8) or (connect$6 near2 immunoglob$8) or (connect$6 near2 antibody) or (connect$6 near2 autoantibody) or (connect$6 near2 (auto adj antibody)) or (connect$6 near2 immunoglob$8) or (connect$6 near2 IVIg$2)	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:18
3	1970	((intravenous$6 near2 immunoglob$8) or (intravenous$6 near2 IgG) or (intravenous$6 near2 Ig) or (intravenous$6 near2 (immune adj globul$6)) or (intravenous$6 near2 (gamma adj globul$6)) or (intravenous$6 near2 gammaglobul$6) or (intravenous$6 near2 (immune adj serum adj globul$6))) or ((iv near2 immunoglob$8) or (iv near2 IgG) or (iv near2 Ig) or ivIg or (iv near2 (immune adj globul$6)) or (iv near2 (gamma adj globul$6)) or (iv near2 gammaglobul$6) or (iv near2 (immune adj serum adj globul$6))) or ((inject$6 adj2 (immune adj globul$6)) or (inject$6 near2 immunoglob$8) or (inject$6 near2 IgG) or (inject$6 near2 gammaglobul$6) or (inject$6 near2 (immune adj serum adj globul$6)) or (inject$6 near2 Ig) or (inject$6 near2 (gamma adj globul$6)))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:20

4	284	((natural$6 near2 autoantibody) or (natural$6 near2 (auto adj antibody)) or (polyreact$6 near2 (auto adj antibody)) or (polyreact$6 near2 autoantibody) or (polyreact$6 near2 antibody) or (polyreact$6 near2 immunoglob$8) or (polyspecific near2 (auto adj antibody)) or (polyspecific$6 near2 (auto adj antibody)) or (polyspecific$6 near2 autoantibody) or (polyspecific$6 near2 antibody) or (polyspecific$6 near2 immunoglob$8) or (connect$6 near2 immunoglob$8) or (connect$6 near2 antibody) or (connect$6 near2 autoantibody) or (connect$6 near2 (auto adj antibody)) or (connect$6 near2 immunoglob$8) or (connect$6 near2 IVIg$2)) AND (((intravenous$6 near2 immunoglob$8) or (intravenous$6 near2 IgG) or (intravenous$6 near2 Ig) or (intravenous$6 near2 (immune adj globul$6)) or (intravenous$6 near2 (gamma adj globul$6)) or (intravenous$6 near2 gammaglobul$6) or (intravenous$6 near2 (immune adj serum adj globul$6))) or ((iv near2 immunoglob$8) or (iv near2 IgG) or (iv near2 Ig) or ivIg or (iv near2 (immune adj globul$6)) or (iv near2 (gamma adj globul$6)) or (iv near2 gammaglobul$6) or (iv near2 (immune adj serum adj globul$6))) or ((inject$6 adj2 (immune adj globul$6)) or (inject$6 near2 immunoglob$8) or (inject$6 near2 IgG) or (inject$6 near2 gammaglobul$6) or (inject$6 near2 (immune adj serum adj globul$6)) or (inject$6 near2 Ig) or (inject$6 near2 (gamma adj globul$6))))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:20

5	108	(((530/387.2).CCLS.) or ((530/389.3).CCLS.) or ((530/389.8).CCLS.) or ((530/413).CCLS.) or ((530/868).CCLS.) or ((424/158.1).CCLS.) or ((424/175.1).CCLS.) or ((424/810).CCLS.) or ((435/5-6).CCLS.) or ((435/7.24).CCLS.) or ((435/7.32).CCLS.) or ((435/7.93).CCLS.) or ((435/7.95).CCLS.) or ((435/965).CCLS.) or ((436/506).CCLS.) or ((436/547).CCLS.) or ((436/822).CCLS.) or ((436/824).CCLS.)) and (((natural$6 near2 autoantibody) or (natural$6 near2 (auto adj antibody)) or (polyreact$6 near2 (auto adj antibody)) or (polyreact$6 near2 autoantibody) or (polyreact$6 near2 antibody) or (polyreact$6 near2 immunoglob$8) or (polyspecific near2 (auto adj antibody)) or (polyspecific$6 near2 (auto adj antibody)) or (polyspecific$6 near2 autoantibody) or (polyspecific$6 near2 antibody) or (polyspecific$6 near2 immunoglob$8) or (connect$6 near2 immunoglob$8) or (connect$6 near2 antibody) or (connect$6 near2 autoantibody) or (connect$6 near2 (auto adj antibody)) or (connect$6 near2 immunoglob$8) or (connect$6 near2 IVIg$2)) AND (((intravenous$6 near2 immunoglob$8) or (intravenous$6 near2 IgG) or (intravenous$6 near2 Ig) or (intravenous$6 near2 (immune adj globul$6)) or (intravenous$6 near2 (gamma adj globul$6)) or (intravenous$6 near2 gammaglobul$6) or (intravenous$6 near2 (immune adj serum adj globul$6))) or ((iv near2 immunoglob$8) or (iv near2 IgG) or (iv near2 Ig) or ivIg or (iv near2 (immune adj globul$6)) or (iv near2 (gamma adj globul$6)) or (iv near2 gammaglobul$6) or (iv near2 (immune adj serum adj globul$6))) or ((inject$6 adj2 (immune adj globul$6)) or (inject$6 near2 immunoglob$8) or (inject$6 near2 IgG) or (inject$6 near2 gammaglobul$6) or (inject$6 near2 (immune adj serum adj globul$6)) or (inject$6 near2 Ig) or (inject$6 near2 (gamma adj globul$6)))))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:20
6	240	((530/390.1).CCLS.) or ((530/390.5).CCLS.) or ((424/176.1).CCLS.) or ((424/177.1).CCLS.)	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:22

7	1	((natural$6 near2 autoantibody) or (natural$6 near2 (auto adj antibody)) or (polyreact$6 near2 (auto adj antibody)) or (polyreact$6 near2 autoantibody) or (polyreact$6 near2 antibody) or (polyreact$6 near2 immunoglob$8) or (polyspecific near2 (auto adj antibody)) or (polyspecific$6 near2 (auto adj antibody)) or (polyspecific$6 near2 autoantibody) or (polyspecific$6 near2 antibody) or (polyspecific$6 near2 immunoglob$8) or (connect$6 near2 immunoglob$8) or (connect$6 near2 antibody) or (connect$6 near2 autoantibody) or (connect$6 near2 (auto adj antibody)) or (connect$6 near2 immunoglob$8) or (connect$6 near2 IVIg$2)) and (((530/390.1).CCLS.) or ((530/390.5).CCLS.) or ((424/176.1).CCLS.) or ((424/177.1).CCLS.))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:22
8	709	(anti adj dnp) or (anti adj dinitrophenol) or (antibody near2 dnp) or (antibody near2 dinitrophenol) or (antiserum near2 dnp) or (antiserum near2 dinitrophenol)	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:25
9	11	(((intravenous$6 near2 immunoglob$8) or (intravenous$6 near2 IgG) or (intravenous$6 near2 Ig) or (intravenous$6 near2 (immune adj globul$6)) or (intravenous$6 near2 (gamma adj globul$6)) or (intravenous$6 near2 gammaglobul$6) or (intravenous$6 near2 (immune adj serum adj globul$6))) or ((iv near2 immunoglob$8) or (iv near2 IgG) or (iv near2 Ig) or ivIg or (iv near2 (immune adj globul$6)) or (iv near2 (gamma adj globul$6)) or (iv near2 gammaglobul$6) or (iv near2 (immune adj serum adj globul$6))) or ((inject$6 adj2 (immune adj globul$6)) or (inject$6 near2 immunoglob$8) or (inject$6 near2 IgG) or (inject$6 near2 gammaglobul$6) or (inject$6 near2 (immune adj serum adj globul$6)) or (inject$6 near2 Ig) or (inject$6 near2 (gamma adj globul$6)))) and ((anti adj dnp) or (anti adj dinitrophenol) or (antibody near2 dnp) or (antibody near2 dinitrophenol) or (antiserum near2 dnp) or (antiserum near2 dinitrophenol))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:26

10	1	(((530/390.1).CCLS.) or ((530/390.5).CCLS.) or ((424/176.1).CCLS.) or ((424/177.1).CCLS.)) and ((((intravenous$6 near2 immunoglob$8) or (intravenous$6 near2 IgG) or (intravenous$6 near2 Ig) or (intravenous$6 near2 (immune adj globul$6)) or (intravenous$6 near2 (gamma adj globul$6)) or (intravenous$6 near2 gammaglobul$6) or (intravenous$6 near2 (immune adj serum adj globul$6))) or ((iv near2 immunoglob$8) or (iv near2 IgG) or (iv near2 Ig) or ivIg or (iv near2 (immune adj globul$6)) or (iv near2 (gamma adj globul$6)) or (iv near2 gammaglobul$6) or (iv near2 (immune adj serum adj globul$6))) or ((inject$6 adj2 (immune adj globul$6)) or (inject$6 near2 immunoglob$8) or (inject$6 near2 IgG) or (inject$6 near2 gammaglobul$6) or (inject$6 near2 (immune adj serum adj globul$6)) or (inject$6 near2 Ig) or (inject$6 near2 (gamma adj globul$6)))) and ((anti adj dnp) or (anti adj dinitrophenol) or (antibody near2 dnp) or (antibody near2 dinitrophenol) or (antiserum near2 dnp) or (antiserum near2 dinitrophenol)))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:26
11	41666	(affinity adj chromatograph$6) or (affinity adj purifi$8) or (affinity adj separat$8) or (affinity adj adsorb$8) or (affinity adj adsorp$8) or (affinity adj absorp$8) or (affinity adj absorb$8)	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:28
12	324	((anti adj dnp) or (anti adj dinitrophenol) or (antibody near2 dnp) or (antibody near2 dinitrophenol) or (antiserum near2 dnp) or (antiserum near2 dinitrophenol)) and ((affinity adj chromatograph$6) or (affinity adj purifi$8) or (affinity adj separat$8) or (affinity adj adsorb$8) or (affinity adj adsorp$8) or (affinity adj absorp$8) or (affinity adj absorb$8))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:28
13	69	((anti adj dnp) or (anti adj dinitrophenol) or (antibody near2 dnp) or (antibody near2 dinitrophenol) or (antiserum near2 dnp) or (antiserum near2 dinitrophenol)) same ((affinity adj chromatograph$6) or (affinity adj purifi$8) or (affinity adj separat$8) or (affinity adj adsorb$8) or (affinity adj adsorp$8) or (affinity adj absorp$8) or (affinity adj absorb$8))	USPAT; US-PGPUB; EPO; DERWENT	2004/03/19 17:28